
Service Line Inventory FAQ's

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Oregon Health Authority
Drinking Water Services
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Presentation Overview

- Methodologies
- Getting started, resources
- Reporting, Oregon spreadsheet format
- Q&A

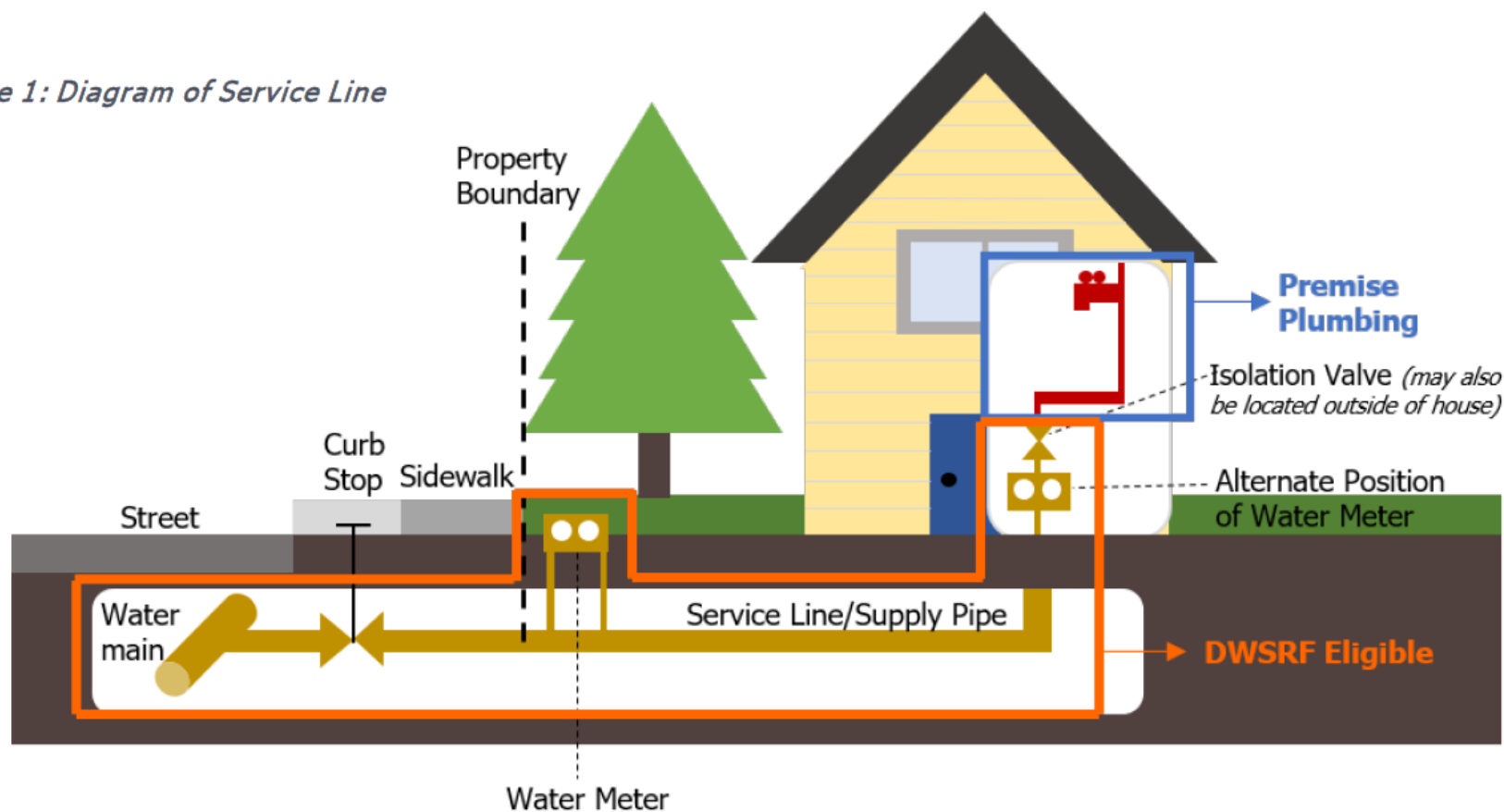
Oregon Rule-making

- DWS has added language from CFR to Oregon Administrative Rules
- OAR 333-061-0036(10)(h) — page 165
 - Service line inventory
 - *LSL replacement plan** (due date may be changing)
 - Effective January 1, 2023
- Provides regulatory basis for inventory work needed to be done now
- Remainder of LCRR will not be adopted
- Oregon will apply for EPA primacy after LCRI is published

(Federal Register pre-publication 12/6/23)

Service lines

Figure 1: Diagram of Service Line



Oregon's Lead Ban

- In July 1985, Oregon banned all future use of lead components in public water systems
- There *should not* be any known lead components in a PWS (public side)
- Service connections installed in 1986 or later will be considered non-lead.

Previous efforts to certify no lead

- In 1985, PWSs had to certify that they did not have any lead in the public system, or be on a schedule to remove all lead components
- This certification is not adequate for the LCRR for the public service lines, because non-evidence-based methods were allowed
- Thus, the public service lines still need to be included in the inventory, though we don't expect to find many.

Is an operator statement of no lead allowed?

- Oregon will not allow an operator to simply state or certify that no lead was used in their system based on historical knowledge.

LCRR: Lead Service Line Inventory

- Water systems must prepare an initial Lead Service Line Inventory by October 16, 2024 that identifies:
 - Lead Service lines (LSL)
 - Lead Status Unknown Service Lines (Unknown)
 - Galvanized lines requiring replacement (GRR)
 - A galvanized service line downstream of a service line that is now or ever was lead (gooseneck not included)
 - Non-lead Service lines



LCRR: Lead Service Line Inventory

- Lead connectors (i.e., goosenecks or pigtails) are not required to be included in the initial inventory**
 - EPA recommends including lead connectors where records exist
 - Water systems must replace lead connectors when encountered (existing Oregon law)



LCRR: Lead Service Line Inventory

- Location Identifier for LSL and GRR
- Will need to be made available to the public if have LSLs, GRRs, or unknowns
- *Systems must update the inventory annually (for systems with unknown service lines)
- Must include ALL service connections: residential, commercial, fire, irrigation, etc

Allowed methodologies to categorize SLs

- Records review
- Installation date & diameter
- Basic / visual inspection
- Physical inspection
- Statistical sampling

Methodologies: Records review

- Service line installation records
- Tap cards
- Plumbing permits
- Maintenance records
- Meter installation records
- Property tax records
- Drawings or maps
- Issues: may not be legible, complete, or accurate

Installation date & Diameter

- Any service lines installed after January 1, 1986 can be categorized as Non-lead
- If a PWS had a written standard regarding pipe materials allowed, that date can also be used. Must have documentation.
- Any service lines 2" or greater can be categorized as Non-lead since lead was not strong enough for this size.

Methodologies: Visual

- Scratch test: PWS staff or residents scratch the pipe using a coin or key
- Magnet test: lead is not magnetic but iron pipe is
- Resident survey, photos
- Plumbers, other utilities



Methodologies: Statistical Analysis

- If no LSLs are known, can statistically verify that no lead service lines are present within a group of unknowns:
 - Use 95% confidence interval
- Physical inspection of the number necessary for 95% confidence
 - Excavation (pot-holing or vacuum)
 - PWS inspection at building inlet
- **If any lead is found, cannot categorize unknowns as Non-lead.**

Statistical Analysis: details

- Note: Oregon protocol is posted, www.oregon.gov/lcrr
- Approx number of unknowns to verify for statistical method
 - Less than 1500 unknowns – excavate 20%
 - 1,500 unknowns – excavate 306 for 95% confidence
 - 3,000 unknowns – excavate 341
 - 5,000 unknowns – excavate 357
 - 10,000 unknowns – excavate 370
- Sites to inspect need to be randomly chosen

Physical inspection / excavation

- Mechanical:
 - Gold standard
 - Reliable, high accuracy
 - Expensive, time-consuming
- Vacuum:
 - Hydro vacuum loosens the soil, exposes smaller section of service line
- One location is adequate, outside of meter box or at building inlet
- CCTV: inspect from the inside



Getting started

- Develop a plan
 - DWS does NOT need to approve your plan
- Staff time
 - Consider an intern?
- Train all distribution staff
- Develop data collection method for work
- Evaluate available methods by cost, disturbance, impact to homeowner, skills required, time, and accuracy

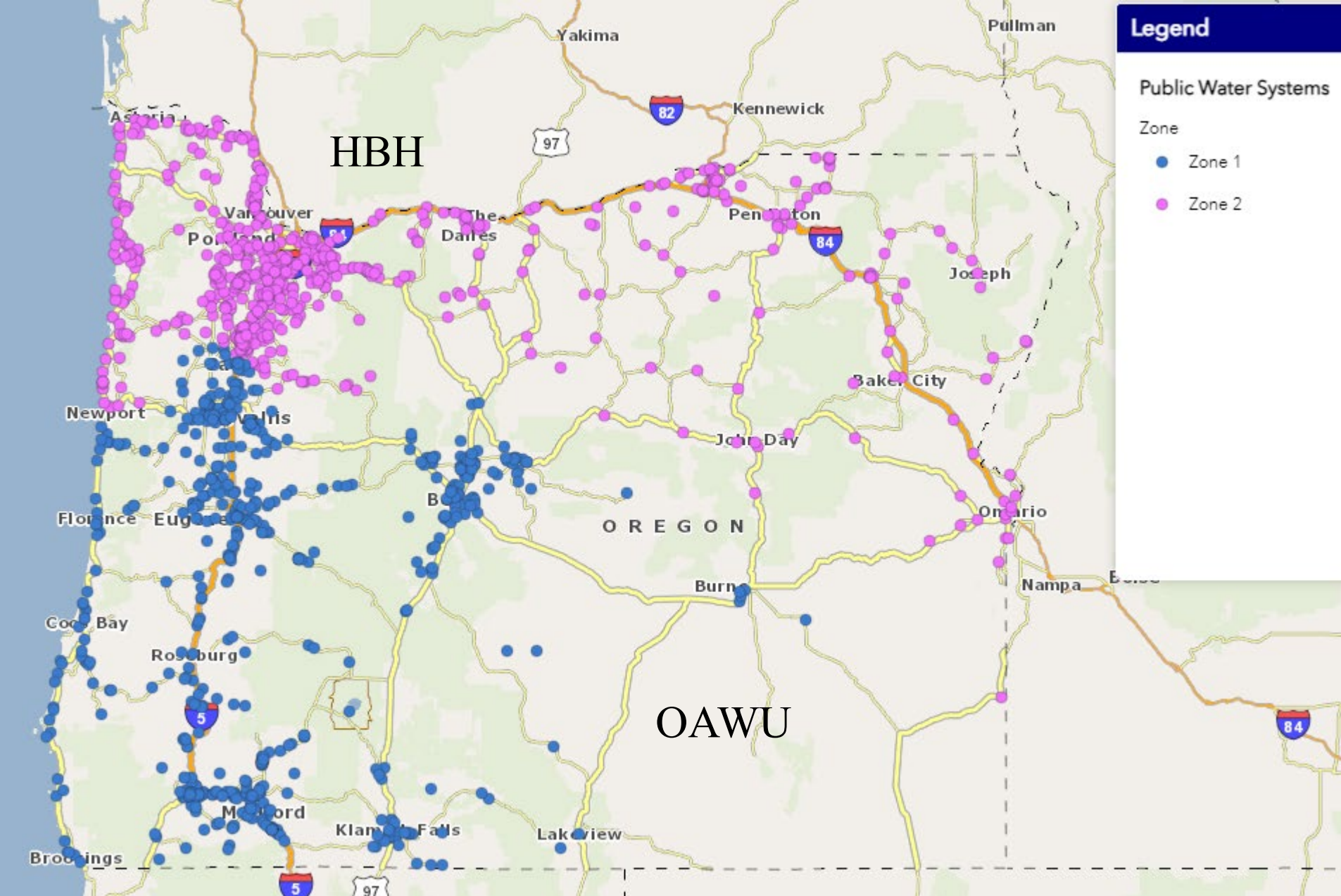
Technical Assistance Providers

- Free to systems serving <10,000 people
- Training and outreach on service line inventory, methodologies, and reporting requirements
- Individual assistance to public water systems
- Receiving assistance is voluntary
- Two providers (on-site/phone):
 - OAWU: SW and central OR
 - HBH: North and Eastern
- Third provider (120 Water) soon with a data portal – more information to come!

Assistance, cont'd

- Records review
- Records compilation
- Use of spreadsheet to track data
- Develop a strategy for identifying unknowns
- Assistance with reporting
- Will not conduct physical inspections/excavation
- Check www.oregon.gov/lcrr to get help!





What about the unknowns?

- A system can list service lines without documentation as “lead status unknown” in the initial inventory
- There will be a public notice requirement for these unknown locations. More to come*
- Unknowns must eventually be determined
- Until material type is identified, service lines will be assumed to be lead for purposes of lead service line replacement plan

Unknowns and Galvanized requiring replacement (GRRs)

- Must be treated as a lead service line until material identified (unknown) or replaced
- Customer notification 30 days after inventory is complete, and annually
 - Health effects of lead
 - Steps they can take to reduce lead exposure
- Notification after any service line disturbance
- If SL is worked on, must provide pitcher filter
- Rules may change with LCRI*

Lead Service Line Replacement (LSLR) Plan

- *Water systems with LSLs or unknowns must prepare an LSLR plan by October 16, 2024* that includes:*
 - *Strategy for determining the composition of lead status unknown lines*
 - *LSLR and GRR replacement prioritization strategy*
 - *disadvantaged consumers*
 - *populations most sensitive to the effects of lead*
 - *Percentage to replace each year*
 - *Funding strategy to accommodate customers unable to pay*
- *LCR Improvements (LCRI) may refine reporting requirements**

Bipartisan Infrastructure Law (BIL)

- Money is coming to states to fund lead service line replacements (loan program, 49% grants to disadvantaged communities).
- Can be used for inventory work – 3rd party
- If lead service lines are found, BIL funding will be available to fund replacement (GRR too).



Inventory Reporting

- Entire inventory must be submitted (must be excel file) – electronically to:
 - dwp.dmce@odhsoha.oregon.gov
- Due October 16, 2024
- Use Oregon template/spreadsheet or
 - data portal (coming)
- Required elements must be filled out (Black columns)
- Common submission error: one row per connection – even if all the same pipe material

Updating the inventory

- **LCRI is proposing annual (baseline) inventory submissions after the initial inventory is completed next October 2024. Could probably not be required for systems that meet certain criteria. More to come*

Resources: Drinking water website

Oregon Drinking Water Services

Working to keep drinking water safe for Oregonians

Access to safe drinking water is essential to human health. Each person on Earth requires at least 20 to 50 liters of clean, safe water a day for drinking, cooking and simply keeping themselves clean. Oregon Drinking Water Services works to help keep drinking water safe for Oregonians.

Oregon Drinking Water Services (DWS) administers and enforces drinking water quality standards for public water systems in the state of Oregon. DWS focuses resources in the areas of highest public health benefit and promotes voluntary compliance with state and federal drinking water standards. DWS also emphasizes prevention of contamination through source water protection, provides technical assistance to water systems and provides water system operator training.

[Contact Us](#)[Sign up for DWS Alerts](#)[Water Advisories Map](#)[Data Online](#)

 [Guidance for Reopening Building Water Systems After Prolonged Shut Down - Updated October 7, 2020](#)

 [Public Water Systems and Novel Coronavirus 2019 \(COVID-19\) Frequently Asked Questions - Updated May 1, 2020](#)

Services

- [Cross Connection & Backflow Prevention](#)
- [Emergency Planning and Response](#)
- [Groundwater & Source Water Protection](#)
- [Monitoring & Reporting](#)
- [Operator Certification](#)
- [Plan Review](#)
- [State Revolving Fund \(SRF\)](#)
- [Water System Operations](#)

Resources

- [County & Department of Agriculture Resources](#)
- [Data Online](#)
- [Domestic Well Safety Program](#)
- [Drinking Water Advisory Committee \(DWAC\)](#)
- [For Consumers](#)
- [Rules & Implementation Guidance](#)
- [Training Opportunities](#)
- [Site Map](#)
- [Contact Us](#)

News and Hot Topics

Link

[Wildfire information for water systems](#)[Drinking Water Source Protection Funding Available - LOI Due March 24, 2021](#)[NEW - Annual Water System Fee Info](#)[SRF PPL Public Notices](#)[Rulemaking: Adoption of Annual Fees](#)[Cyanotoxin Resources for Water System Operators](#)[Shutdown tips for seasonal groundwater systems](#)

Resources:

Drinking water website (cont.)

Rule Implementation Guidance

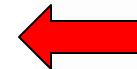
Oregon Very Small Systems

Effective January 1, 2022, water systems serving 4 to 14 service connections and commercial or public premises used by 10 to 24 people at least 60 days per year have been renamed Oregon Very Small (OVS) from State Regulated. New rules are now implemented for Oregon Very Small (OVS) systems that retain important public health protections and are more achievable for water suppliers with limited resources.

Service Line Inventory requirements in the Lead and Copper Rule Revisions (LCRR)

The Lead and Copper Rule applies to all community (CWS) and non-transient (NTNC) public water systems. EPA adopted revisions to the Lead and Copper Rule in 2021 that include a requirement for public water systems to conduct inventories of service lines and to identify service line material type. The intent of the service line inventory requirement is to identify those service lines made of lead so that they can be scheduled for removal and replacement.

Public water systems must conduct an inventory of all service lines, on both the water system side and the homeowner side of the meter, and to submit the results to OHA—Drinking Water Services (DWS) by October 16, 2024.



Resources:

Drinking water website (cont.)

Lead and Copper Rule Revisions

Drinking Water Services

Rules and Implementation Guidance

Lead and Copper Rule Revisions

Oregon Very Small Systems

Ground Water Rule

Long Term 2 Enhanced Surface Water Treatment Rule (LT2)

Stage 2 Disinfection Byproducts Rule

Contact Us

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Frequently Asked Questions (FAQ) - Updated October 2023

Statistical Guidance for Evaluating Unknown Service Lines (for Community public water systems only)



Inventory Templates

-  For Community public water systems (updated March 2023)
-  Community public water systems (under 100 connections)
-  For Non-Community Non-Transient public water systems

To submit your inventory, please email the Excel file to DWP.DMCE@odhsoha.oregon.gov.

Service Line Inventory Technical Assistance

Assistance is available from two organizations to assist your water system in completing and submitting the service line inventory. Information will be sent to water systems relaying contact information and how they can assist you with the inventory requirement. You can check the Excel file below to see your water system vendor information.

-  **Zone 1 (mostly SW Oregon – South of Salem)**
 - Oregon Association of Water Utilities (OAWU): 503-837-1212
-  **Zone 2 (mostly NW to NE Oregon)**
 - HBH Consulting Engineers: 503-554-9553


Funding Resources

Funding for conducting the service line inventory may be available through the Bipartisan Infrastructure Law (BIL). Public water systems first need to express interest. Interest can be submitted through this link:
<https://app.smartsheet.com/b/form/fe397184596c4b99974c5c85ae480ad1>.

If there is enough interest from public water systems, DWS may apply for the funds in 2024. Disadvantaged communities may be eligible for a portion of the loan as principal forgiveness, but exact subsidy amounts will not be determined until a project is deemed eligible and funding is applied for. In the meantime, water systems need to proceed with the inventory work. Point of contact in DWS is Amy Word

Oregon Template:

Lead Service Line (LSL) Inventory						
PWS ID (OR41#####)						
PWS name						
Operator submitting report						
Date completed						



color key

Black - required

Blue: monitoring location determinations

Green: good to know

Purple: calculated by spreadsheet - do not edit

Summary	
Lead	GRR
0	0

GRR=Galvanized requiring replacement

Required for Lead service line inventory						
Site ID	Location Identifier (Required for Lead and GRR status only - optional for other service lines)	Water system owned service line current material	Water System service line material identification method	Customer owned service line current material	If customer service line is galvanized, was upstream service line material ever lead?	Customer service line material identification method

Oregon Template:

Blue font – Sample location determination

Useful for tap monitoring location determination - OPTIONAL

Service type of connection	Connector material to water main (i.e. goosenecks)	Interior plumbing	POE/POU treatment
Single family	Non-lead	Copper	No
single family	Lead	Lead	Yes
multi-family	Previously Lead	Copper	No
school/daycare	Non-lead	CPVC	Unknown
other/non-residential	unknown	Pex	
non-potable		other	
		unknown	

Oregon Template:

Green font – water system info

Good to know - OPTIONAL					
Water system main material & size	Water system service line size	Year (or range) water system owned service line installed	Customer service line size	Year (or range) customer owned service line installed	Water system Notes
		1988-1990		1990	

Oregon Template:

Purple font – calculations – do not edit

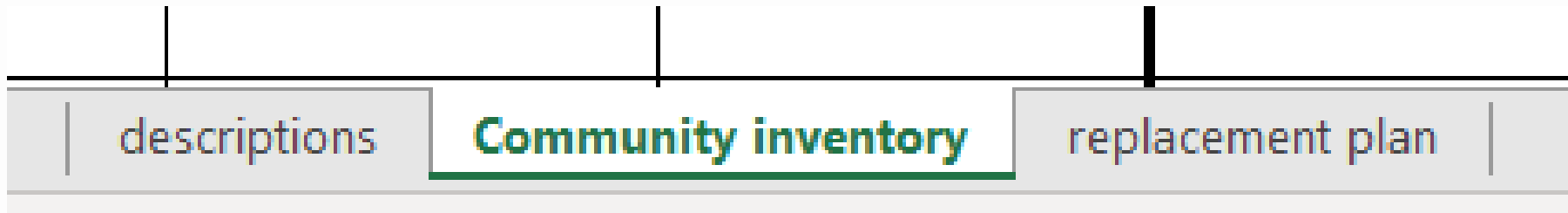
Calculated by spreadsheet - do not edit	
LSL status	testing site tier level (TBD)
<input type="text"/>	<input type="text"/>
Example - not included in count	
Lead	
GRR	
Non-Lead	
unknown	
Error - no ownership	
Error-Location required	

Note: correct all errors before submission

Summary					
Lead	GRR	Unknown	Non-Lead	Error*	Total
1	1	1	1	2	6
GRR=Galvanized requiring replacement					

Oregon Template:

Other tabs



- Expanded descriptions for each field and some of the drop down choices.
- Inventory – what we just went over.
- Replacement plan – requirements per rule.
Format TBD

Replacement plan format TBD

Note: not needed if 100% of service lines are non-lead

The following requirements (found in the OAR) will need to be answered regarding Lead, GRR and unknown service lines:

1	A strategy for determining the composition of lead status unknown service lines in its inventory
2	A procedure for conducting full lead service line replacement
3	A strategy for informing customers before a full or partial lead service line replacement
4	A procedure for customers to flush service lines and premise plumbing of particulate lead
5	A lead service line replacement prioritization strategy based on factors including but not limited to the targeting of known lead service lines, lead service line replacement for disadvantaged consumers and populations most sensitive to the effects of lead
6	A funding strategy for replacing lead service lines which considers ways to accommodate customers that are unable to pay to replace the portion they own
7	For systems that serve more than 10,000 people, a lead service line replacement goal rate as approved by OHA

Methodology verification

Part 1: Historical Records Review	
Type of Record	Describe the Records Reviewed for Your Inventory and Indicate Your Level of Confidence (e.g. , Low, Medium, or High)
1. Previous Materials Evaluation <i>Example: Locations of Tier 1 lead tap sampling locations that are served by a lead service line.</i>	
2. Construction Records and Plumbing Codes <i>Examples: Local ordinance adopting an international plumbing code. Permits for replacing lead service lines.</i>	
3. Water System Records <i>Examples: Capital improvement plans. Standard operating procedures. Engineering standards.</i>	
4. Distribution System Inspections and Records <i>Examples: Distribution system maps. Tap cards. Service line repair/replacement records. Inspection records. Meter installation records.</i>	
5. Other Records	

- DWS will need to verify that appropriate methods were used – this is the easiest way to do that.

Methodology verification

Part 2: Identifying Service Line Material During Normal Operations

1. During which normal operating activities are you collecting information on service line material? Check all that apply.

☐ Water meter reading

☐ Water meter repair or replacement

☐ Service line repair or replacement

☐ Water main repair or replacement

☐ Backflow prevention device inspection

☐ Other

If "Other", please explain:

2. Did you develop or revise standard operating procedures to collect service line material information during normal operation?

Select "Yes" or "No"

If "Yes", please describe:

Methodology verification

Part 3: Service Line Investigations

1. Identify the service line investigation methods your system used to prepare the inventory (check all that apply). If a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required. **Note that investigations are not required by the LCRR but can be used by systems to assess accuracy of historical records and gather information when service line material is unknown.**

- | | |
|---|--|
| <input type="checkbox"/> Visual Inspection at the Meter Pit | <input type="checkbox"/> Water Quality Sampling - Other |
| <input type="checkbox"/> Customer Self-Identification | <input type="checkbox"/> Mechanical Excavation |
| <input type="checkbox"/> CCTV Inspection at Curb Box - External | <input type="checkbox"/> Vacuum Excavation |
| <input type="checkbox"/> CCTV Inspection at Curb Box - Internal | <input type="checkbox"/> Statistical/Predictive Modeling |
| | <input type="checkbox"/> Other |

If "Other", please explain:

2. If "Statistical/Predictive Modeling", please briefly describe the model and inputs used:

3. How did you prioritize locations for service line materials investigations? For example, did you consider environmental justice and/or sensitive populations, did you use predictive modeling, and/or did you target areas with high number of unknowns?

Submissions received so far (12/1/23):

Community water systems – total 926

Received 33 (28 under 150 connections)

Non-Transient NC – total 343

Received 16


Issues noted with submissions:

*Not accounting for each service line individually (grouped)

*NTNC system (school-1 connection) listed every classroom

*PDF of excel file. CWS and over 20 connection NTNC have to submit the excel file. Under 20 NTNC can return form that was sent (scan and email or fax in)


Stay informed



Drinking Water

Oregon Drinking Water Services

Home > Public Health Division > Environmental Public Health > Drinking Water

 **OHA COVID-19 Updates and Resources:** Visit our COVID-19 site for the latest updates, testing sites and vaccine information, or find information for healthcare partners.

Oregon Drinking Water Services

Working to keep drinking water safe for Oregonians

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[Guidance for Reopening Building Water Systems After Prolonged Shut Down](#) - Updated October 7, 2020

Questions??



- Contact your regulator with specific questions
- Amy Word, REHS, Technical Services, Pendleton
- amelia.a.word@oha.oregon.gov